R E P O R T  R E S U M E S

ED 003 871 48

A BINI GRAMMAR, PART 2--MORPHOLOGY.

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REPORT NUMBER NDEA-VI-164-2 PUB DATE 62
EDRS PRICE MF-$0.09 HC-$1.56 39P.

DESCRIPTORS- *BINI, *GRAMMAR, *LANGUAGE INSTRUCTION, *LINGUISTICS, *STRUCTURAL ANALYSIS, *MORPHOLOGY (LANGUAGES), PHONEME, EAST LANSING, MICHIGAN

IN THIS PUBLICATION, TWO CHAPTERS ARE PRESENTED ON THE MORPHOLOGY OF BINI GRAMMAR--(1) GRAMMATICAL PROCEDURES, WHICH INCLUDE GRAMMATICAL METHOD, GRAMMATICAL PROCESS, AND GRAMMATICAL ANALYSIS, AND (2) FORMS, WHICH INCLUDE AFFIXES AND ROOTS. (SEE ED 003 870 FOR PART ONE OF BINI GRAMMAR, PHONOLOGY, AND ED 003 872 FOR PART THREE, LEXEMICS.) (JC)

ED003871

164-2

# A BINI GRAMMAR

## Part 2: Morphology

by ROGER W. WESCOTT

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**Part II: Morphology**

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1962

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## CHAPTER 3: GRAMMATICAL PROCEDURE

### Section 1: Grammatical Method

Although, in its broadest sense, grammar may be equated with the study of language in general, in its more technical sense grammar means the analysis only of such utterances as have meaning. It is thus opposed to phonology, the study of speech-sounds which -- by themselves -- have no meaning. Even in this narrower sense, however, grammar covers such a large proportion of the total area of linguistic investigation that it is usual to subdivide it into at least two less extended disciplines: morphology, the study of shorter grammatical constructions, such as roots and affixes; and syntax, the study of longer grammatical constructions, such as phrases and clauses.

Of these two subdisciplines, morphology has attained a degree of rigor only slightly inferior to that previously attained in phonology. Corroborative evidence for this situation is supplied, at least on the terminological level, by the fact that the term "morpheme" is as widely used and can be as precisely defined as the corresponding term "phoneme" in the study of pronunciation.

Unfortunately, the same cannot be said of syntax (even when it is given the more sonorous name of "syntagmology"). While such terms as "taxeme" and "tagmeme" have been proposed by the American scholars Bloomfield and Pike, actual use of the implied concepts has not yet progressed to the point where most of their colleagues can readily and fruitfully manipulate them. And, if anything, Lees' Transform Grammar and Chomski's Generative Grammar are even more embryonic tools of morphological and syntactic analysis. The practical result of all this conceptual and methodological uncertainty is that each investigator of a previously unanalyzed language has, for the most part, to create his own grammatical terms and techniques, particularly in those areas where traditional terminology seems inadequate or ambiguous. In deference to the long-suffering lay reader, all that the present writer can do

is promise to try to restrict neologisms to the minimum compatible with order and completeness.

Grammatical symbolism also poses something of a problem. In general, hyphens will be used here as they are used in most current works on morphology: (1) to separate individual morphemes in a morpheme-sequence (such as a word) or (2) to indicate that extra-sequential morphemes are bound rather than free -- i.e., that they cannot stand alone. Thus, for example, the word ọ̀fùbhẹ̀n'ègbè, "peace", may be analytically transcribed as the linear morpheme-sequence ọ̀-fù-bhẹ̀n-è-gbè (which can be literally translated, form by form, as "he-cool-action-object-body"). Furthermore, the position of the hyphen -- prepositive, postpositive, or bipositive -- indicates which part of the morpheme may not occur contiguous to a long disjuncture. Thus, in the case of the complex noun above, the ọ̀- may follow a pause or stop but may not precede either, while the -gbè may precede a pause or stop but may not follow either.

Hyphens are useful also in setting off bound morpheme-sequences as well as bound unit morphemes. Thus, we shall use it functionally to differentiate ùnî-, "four", from ènẹ́n, which also means "four". Aside from their vocalisms, the difference between these two lexemes is that the latter is a free form, which may occur either alone or in combination with almost any noun; whereas the former is a bound allolog (or variant) of the latter, which may occur only before the noun -ẹ́rlè, "day" (the meaning of the compound ùnîẹrlè being "four days from today".) Analogously, we shall use a hyphen before the bound noun -èsì, "virtue"

(an allolog of the free noun èsé, "goodness"), which occurs only after the nouns ọ̀bhâàn, "person", and èbhîìn, "thing".

In practice, it seems equally useful to extend hyphenation to bound lexemes which are not allologs of free lexemes -- that is, to words which not only are incapable of standing alone but which lack variants that can stand alone. Thus, for example, we shall write the noun ágbà-, "cross-piece", with a final hyphen to

indicate that it never stands alone but occurs only after the particle èbhé, "in" (with which it combines to form the phrase bhénia, "thus").

Puristic analogy would seem to require us to write all Bini verbs and particles with hyphens, since they never occur except as parts of constructions larger than words. In practice, however, such hyphenation is not only unnecessary but burdensome, since we already know in advance that members of these two word-classes cannot stand alone but must comprise parts of phrases or subphrases. In the case of verbs, moreover, the fact that they are toneless on all levels below that of the subphrase serves as a further graphic reminder that the forms with which we are dealing are not free.

The allomorphy or allology exhibited by some of the afore-cited Bini forms leads us also to take up the question of citation-forms generally. When a Bini morpheme or lexeme has a number of variants, which one shall we cite as its "standard" form, from which we shall then regard all alternative forms as deviations? In a few cases, the question is rather easily answered: Nouns are more conveniently cited in their isolation forms than in their combination forms. Thus, it seems more practical to cite the word for "book" as free èbé than as pre-pronominal èbè-, since the former variant is both commoner and more independent than the latter.

But not all choices are so readily made. It is debatable, for example, whether one should cite the demonstrative particle in its maximal form èné or in its usual form nÁ; whether one should cite the verb "to be difficult" in its phonic form ba a or in its morphic form ba'a; and whether one should cite the adverb "exactly" in its phonemic form zɛ́ɛ or in its metaphonemic form ÀzéɛÁ.

In a few cases, the question of citation is further complicated by a prior question of interpretation. Is the pronominal form mẹ̀n, "I", for example, to be construed as an abridged form of ìmẹ̀n, "I", or rather as the form from which ìmẹ̀n is morphically derived by the addition of an extensional vowel-prefix? The same

question can be put in the case of the exclamative lá(à), "hall", where the -à could be either an emphatic suffix added to lá or a part of the stem from which lá is phonically derived.

With polysyllabic nouns, the question of tempo becomes crucial. To be sure, we can probably agree that accelerated speech forms should not be cited, because they are both less common and less transparent than unaccelerated forms. Yet it remains a question whether we should prefer intermediate speech forms because they are conversationally commoner or decelerated speech forms because they are morphologically more transparent. And the fact that we encounter three intermediate speech tempos ("rapid", "ordinary", and "slow") as well as two decelerated speech tempos ("deliberate" and "ceremonious") only further complicates the issue. In the case of the numeral "nine", for instance, we are confronted with five possible citation forms, ranging from minimal to maximal as follows:

| | |
|---|---|
| 1 (rapid) | lhìn'ín |
| 2 (ordinary) | lhìnrlín |
| 3 (slow) | lhìinrlín |
| 4 (deliberate) | lhìn'ìnrlín |
| 5 (ceremonious) | lhìnbhìnrlín |

Even if we should decide to compromise between intermediate and decelerated tempo, we would still be faced with a choice between forms (3) and (4) above -- though we might conceivably escape the dilemma by positing a further form (3a) lhì'ìnrlín, intermediate between lhìnrlín and lhìn'ìnrlín!

In general, we shall hereafter compromise on these issues by favoring the maximal or ceremonious forms of shorter words (such as particles) but the intermediate or ordinary forms of longer words (such as nouns); and by writing adverbs phonemically (as opposed to metaphonemically) but verbs morphologically (as opposed to phonemically). The reasons for these analytic inconsistencies, of course, are utilitarian: the shorter forms of short words are sometimes reduced to the point of graphic unrecognizability, while the longer forms of long words

not only look clumsy but sound unnatural; and metaphonemes always pose a pronunciation problem, whereas the use of apostrophes within verb-stems is a handy graphic device to prevent their being read as two-word sequences.

Where questions of morphological interpretation are involved, each case must be settled on its individual merits. As it happens, however, it does seem more satisfactory, all things considered, to treat the words ìmẹ̀n, "I", and lâà, "hall!", as extensions of mẹ̀n and lá than as sources of the latter two forms.

Another grammatical problem has to do with the definition of the key term in most morphological analyses -- to wit, the word "morpheme". Most morphologists would agree on defining a morpheme as a minimal form (or sequence of phonemes) having meaning. Yet it remains a question what is meant by "meaning". Most linguists would recognize at least two types of meaning as fulfilling the requirements of the above definition -- lexical (that is, referential or synonymal) meaning and structural (that is, functional or positional) meaning.

In Bini, the noun ùnún, "mouth", could be either referentially defined by touching one's mouth with one's finger or synonymally defined by equation with the French word bouche. The perfective verb-suffix -rìè, on the other hand, could be functionally defined as giving an aspect of completeness to the action indicated by the verb-stem; while the adverbial suffix -HA can only be positionally defined as an element which must conclude a monosyllabic adverbial stem (if only in its zero allomorphic form) before that stem can be said to have been converted into a lexeme. Positional meaning is therefore obviously the most tenuous sort of meaning. Yet even it can be said to constitute a sort of sub-type of functional meaning, in that, without those co-forms which carry it, many forms could not come to constitute words. In other words, the mere fact that many Bini forms -- such as extensional affixes or tonal superfixes -- cannot easily be translated into English does not mean that they are not morphemes (or allomorphs) or that they are not appropriate objects of our morphological study.

Just as phonology recognizes various sound-types, which we earlier termed "phonic domains", so too may morphology recognize various form-types, which we shall hereafter term "morphic domains". The realm of Dini forms may be initially divided into a eumorphic domain and a dysmorphic domain. The eumorphic domain consists of forms which conform to the normal rules of word-formation in Dini, while the dysmorphic domain consists of forms which break these rules.

The dysmorphic domain may in turn be subdivided into two sub-domains, the paramorphic and the xenomorphic. Paramorphic forms, which are either exclamatives or adverbs, are often paraphonic in sound. When exclamatives, they violate the general rules of word-construction by beginning with nasal vowels, as in the case of ə̀n, "yes", or by possessing no consonants, as in the case of ə̀ə́ə́, "How extraordinary!" When adverbs, they violate the specific rules of adverb-formation by possessing no vowels, as in the case of gbə̀rr, "with a throbbing or purring sound", or by exhibiting no adverbial affixes, as in the case of kpʊ̀, "with a plop".

Xenomorphic forms are either nouns or verbs -- usually the former. When nouns, they break the rules of noun-formation by exhibiting no nominal prefix, as in the case of kpékúkpékú, "hiccups", which is perhaps a word of Yoruba origin. When verbs, they break the rules of verb-formation by exhibiting fixed and inherent lexical tone, as in the case of tàfîa, "to interfere", which is probably derived from English.

Section 2: Grammatical Process

Functionally speaking, grammar may be defined as the manner in which forms (that is, meaningful sound-sequences) are freed, bound, expanded, contracted, altered, or arranged. Since, however, we are also using the term grammar to refer to the study of this function and its consequences, we shall henceforth refer to the function itself as "grammatical process".

Grammatical processes are of four major types, each of which exhibits sub-types and infra-types. These four are: (1) word-building, (2) word-alteration, (3) clause-alteration, and (4) general manipulation.

Word-building, in turn, is of three types: (1) affixation, (2) replication, and (3) secution. Affixation may be defined as the attachment of bound forms to bases; replication as the repetition of bases; and secution as the arrangement of bases in consecutive series.

Affixation is of two general types: additive and replacive. Additive affixes make forms longer or completer than they were before affixation, while replacive affixes leave forms no longer or more complete than they were before affixation.

Additive affixation is itself of five sub-types: (1) prefixation, (2) infixation, (3) suffixation, (4) superfixation, and (5) circumfixation. Prefixes precede their bases; infixes divide their (compound) bases; suffixes follow their bases; superfixes accompany (or, in graphic terms, cover) their bases; and circumfixes (which are by definition compound-complex affixes) simultaneously precede, accompany, and follow their bases.

A sample prefix is the indefinite personal affix a- in àbá, "one watches". A sample infix is the positional affix -mA- (here realized in its allomorphic form -bhAn-) in the multiradical noun ẹ̀dẹ́dẹ́bhẹ̀ndẹ̀, "ever".

Suffixes may be either simple or compound. And compound suffixes may be either dimorphic or trimorphic. In Bini, only nouns exhibit all three types of suffixation. An example of a simple suffix is the extensional affix -za in úmàzà, "Standtia Stipitata (a tree)". An example of a dimorphic suffix is the extensional affix -ka-rle (in its allomorphic form -karla) in èkpákárlá, "palm-beetle". And an example of a trimorphic suffix is the extensional affix -HA-ghe-rli (in its allomorphic form - oghorli) in òhôòghòrìì, "a lie".

Superfixation, even on the metaphonemic level, generally has as many varieties as the form to which it is attached has vowels. As we noted in our chapter on pronunciation, the linear nominal sequence uwu means "interior" when it has the superfix top-top, "boundary" when it has the superfix top-low, "death" when it has the superfix low-top, and "aristocratic tattooing" when it has the superfix low-low.

A few form-classes, however, are characterized by tone fixation. All forms in tone-fixed form-classes have one and only one tone-pattern. Verbs and adverbs exhibit only fixed tone, while particles and exclamatives exhibit only free tone. Nouns and pronouns are mixed classes, exhibiting both fixed and free tone, although fixed tone is predominant in pronouns and free tone in nouns.

Examples of the three normal fixed-tone patterns in verbs are the imperfective stems -bá, "watch", -bàá, "shine", and -bàbá, "sneak". Examples of the two commonest fixed-tone patterns in adverbs are the minimal forms -zɛ́ɛ, "exact", and -wɛ̄ɛ, "gentle". (The best formulaic way of writing these words is À-zɛ́ ⟶ -HA and À-wɛ̀ ⟶ -HA, where the horizontal arrow indicates that all succeeding vowels have the same tone as that of the vowel immediately preceding the arrow. It becomes useful when the adverbs involved are polysyllabic, as in the cases of À-só ⟶ -lo-gan-so-lo-gan, "limping", or À-zì ⟶ -gha-rla-kpa-zi-gha-rla-kpa, "like a cripple".)

The three classes of pronouns which exhibit fixed tone are examplified by the basal prepositive, mèn, "I", the extended prepositive ǹmèn, "I", and the extended postpositive ḿmèn, "me". Five classes of nouns exhibiting fixed tone are: nicknames, such as ásḿmó, "Skinny"; agentials, such as ọ̀bọ̀wà, "house-builder"; gerunds, such as ùgḭ̀nbhẹ̀n, "leakage"; echoics, such as àtàlàkpà, "leopard"; and adverbials, such as èhébhéhébhé, "ghost-bird" (which, like the preceding adverbs, could also be formulaically written è-hé ⟶ -bhe-he-bhe).

Circumfixation is actually compound-complex affixation, combining prefixation, suffixation, and non-level fixed-tone superfixation. It has two variants, which we may term quadrifixation and quinquefixation. The quadrifix consists of the prefix u-, the dimorphic suffix -HA-mẹ (in its allomorphic form -Abhẹn), and the superfix low-top-low-low. An example is ùhúèbhẹ̀n, "swelling". The quinquefix is identical except that it has one more tone and exhibits the superfix low-top-top-low-low. An example is ùkpǫ́lǫ̀ǫ̀bhẹ̀n, "magnitude".

Replacive affixation is of two types: linear and tonal. Linear replacives are in turn of two sub-types: prepositive and postpositive. An example of prepositive refixation is the formula ọ̀mọ́n ← è-, where the reverse horizontal arrow indicates the process whereby the singular noun ọ̀mọ́n, "child", is converted into the plural noun èmọ́n, "children". An example of postpositive refixation (or replacive affixation) is the formula wẹ̀ ← -à, where the reverse horizontal arrow indicates the process whereby the singular pronoun wẹ̀, "you (thou)", is converted into the plural pronoun wà, "you (ye)". (This process, of course, is affixative only if we assume the metaphonemic form of the pronoun to be WA-Hẹ̀, where WA- is the root and -Hẹ̀ the suffix.)

Tonal refixation is formulaically represented by the vertical arrow ↑ and the reverse vertical arrow ↓, which indicate, in the former case, that the adjacent low tone is to be raised and, in the latter case, that the adjacent high tone is to be lowered. The former process we will call tone-suppression and the latter tone-elevation. An example of tone-suppression is the phrase èbèbhẹ́n, "my book" (formulaically èbé ↓ -bhẹ́n), from èbé, "book", and (À)bhẹ́n, "me". An example of tone-elevation is the compound àrlǫ̀ǫ̀kpà, "cock's eye" (formulaically àrlò ↑ -ọ̀kpà) from àrlò, "eye", and ọ̀kpà, "cock".

Replication is a grammatical process that may occur at any constructional stage from that of the root through that of the subphrase. It therefore includes

stems, words, and compounds, but excludes affixes, phrases, and all constructions larger than phrases, such as clauses, sentences, predicants, and discourses. It is of two types: continuous and discontinuous. Continuous replication is, in turn, of two sub-types: autothetic and allothetic. The former of these processes we will call autothesis and the latter allothesis. Allothesis, in turn, is of four infra-types: duplication, triplication, quadruplication, and quintuplication. And discontinuous replication is of two types: radical and lexemic. Radical replication involves roots only, while lexemic replication involves whole words. Discontinuous lexemic replication is also of two types: duplication and triplication.

An example of autothetic duplication is the verb lele, "to follow". An example of autothetic triplication is the exclamative sìẹnsìẹnsìẹn, "so begins the tale". An example of autothetic quadruplication is the adverb tititití, "sounding like the wind in the trees". And an example of autothetic quintiplication is the exclamative fíẹnfíẹnfíẹnfíẹnfíẹn, "squeak-squeak (as of a rat)".

An example of allothesis is the verb fuọfua, "to be white" (where fuọ- is an allomorph of fua-).

An example of discontinuous radical replication is the adverb lẹ́lẹ́ẹ́lẹ́, "swollen" (from HÀ-lẹ́-lẹ́-HÁ-lẹ́). An example of discontinuous lexemic duplication is ɨkA̋...ɨkA̋, "each", as in kòbhánkóbhàan, "whoever". An example of discontinuous lexemic triplication is ẹ̋dẹ̋-ẹ̋dẹ̋...ẹ̋dẹ̋, "day after day", as in ẹ̀dẹ́dẹ́bhẹ̀ndẹ̀, "ever".

Sequence, which occurs at every form level from that of the morpheme to that of the discourse, is likewise of two types: continuous and discontinuous. An example of continuous sequence is the adverbial stem bigọ-, "crooked". An example of discontinuous sequence is the compound verb bi...gọọ, "to totter".

Almost as important a grammatical process as word-building is word-alteration. Where the former process makes words from morphemes, the latter makes new words

from old words. Word-alteration is of two types: inflection and derivation. Inflection alters the number or aspect of a word without altering the grammatical class to which it belongs. Derivation turns a word of one grammatical class or sub-class into a word or another grammatical class or sub-class.

Inflection, in turn, is of three sub-types: pluralization, personalization, and perfectivization. Pluralization converts singular nominals into plurals. Personalization converts impersonal or implicitly second-person verbs (of imperative mood) into first-person, third-person, or explictly second-person verbs (of declarative mood). And perfectivization converts imperfective verbs into perfectives. Pluralization, finally, is of two infra-types: prepositive and postpositive. Prepositive pluralization replaces the vowel-prefix of a noun with another vowel prefix. And postpositive pluralization replaces the vowel-suffix of a pronoun with another vowel-suffix.[1]

An example of prepositive pluralization is the process whereby ọ̀mọ́n, "child", becomes èmọ́n, "children". This process may be schematically represented as follows: ọ̀mọ́n minus ọ̀- plus è- becomes èmọ́n. An example of postpositive pluralization is the process whereby wẹ̀, "you (thou)" becomes wà, "you (ye)". This process may be schematically represented as follows: wẹ̀ minus -ẹ̀ plus -à becomes wà.[1] An example of perfectivization is the process whereby ọ̀bá, "he is watching" becomes ọ̀bâè, "he has watched". This process may be schematically represented as follows: ọ̀bá plus -rìè becomes ọ̀bâè. An example of personalization is the process whereby bà, "watch!" becomes ọ̀bá, "he is watching". This process may be schematically represented as follows: bà ↑ plus ọ̀- becomes ọ̀bá.

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[1]For an alternative interpretation of this process, see below, Section on "Pronouns".

Derivation is of two sub-types: nominalization and onymization. Nominalization is the process whereby verbs or verb-plus-noun phrases become nouns; while onymization is the process whereby adverbs become names. Nominalization, in turn, is of three infra-types: agentialization, instrumentalization, and gerundization. Agentialization turns verbal-noun stems into agent nouns; instrum ntalization turns such stems into instrumental nouns; and gerundization turns them into gerunds.

An example of agentialization is the conversion of the verb-plus-noun phrase ọ̀dùẹ́kì, "he trades" into the agential noun ọ̀dùẹ̀kì, "trader". This process may be schematically represented as follows: ọ̀dùẹ́kì minus tone plus low tone → becomes ọ̀dùẹ̀kì. An example of instrumentalization is the conversion of the verb-plus-noun phrase ùgbènbé, "you are writing (a book)", into the instrumental ùgbènbè, "pen and paper". This process may be schematically represented as follows: ùgbènbé minus tone plus low tone → becomes ùgbènbè. An example of gerundization is the conversion of the verb ìwìnnán, "I am working", into the gerund ìwìnnàn, "work". This process may be schematically represented as follows: ìwìnnán minus tone plus low tone → becomes ìwìnnàn. And an example of onymization is the conversion of the adverbial stem -sîmó-, "lean", into the nick-name ásîmó, "Skinny". This process may be schematically represented as follows: -sîmó minus tone plus a- plus top tone → becomes ásîmó.

A third type of grammatical process is clause-manipulation. Clause-manipulation is of two types: predication and ordination. Predication is, in turn, of three sub-types: affirmation, negation, and interrogation. And ordination too is of three types: coordination, subordination, and superordination.

An example of affirmation is the (predicating subphrase and hence) clause ọ̀bá, "he is watching". An example of negation is the clause ẹ̀ẹ́bá, "he isn't watching". And an example of interrogation is the clause ọ̀báā̀, "is he watching?"

An affirmative clause is negated by the interposition of the co-verb Hi between the pronominal prefix and the verb. This process may be schematically represented as follows: ọ̀bá minus continuity plus interpositive Hi plus high tone becomes ọ̀ọ́bá. An affirmative clause is made interrogative by the postposition of the particle àrìà after the complete verb. This process may be schematically represented as follows: ọ̀bá plus àrìà becomes ọ̀báā.

An example of clausal coordination is the sentence ọ̀ghárē, ìghákpā, "He'll come, and I'll go". It contrasts with the non-coordinate sentence ọ̀ghàré, ìghákpā, "When he comes, I'll go", where the first clause is subordinate to the second (or superordinate) clause.

In addition to these more specific types of grammatical process, restricted to the level of the word or the clause, there are also in Bini more general types of grammatical process, which may apply to units smaller than words, larger than clauses, or intermediate to the two grades. These more general processes are of five types: junction, disjunction, distribution, substitution, and equation. Junction is phonic binding (by elimination of all but minimal disjuncture) of one form to another. Disjunction, conversely, is phonic binding (by interposition of non-minimal disjuncture) of one form from another. Distribution is arrangement of forms in an order. Substitution is replacement of one form by another. And equation is the rephrasing of an utterance in either a more detailed or a less detailed manner. (If one admits that some forms may have zero alternants, it then becomes possible, of course, to treat equation as a type of substitution.)

Junction has three sub-types: pronominal, nominal, and verbal. Disjunction has the same sub-types: pronominal, nominal, and verbal. Distribution, on the other hand, has so many sub-types -- and infra-types -- that it seems impractical to attempt any inventory of them. (A fairly extensive sampling of these, however, may be found below in the chapter on syntax.) Substitution has five sub-types:

pronominal, vocative, locative, pro-agential, and pro-numeral. And equation has two sub-types: expansion and contraction.

An example of pronominal junction is the phrase érhàbhẹ́n, "my father", which exhibits close linkage of a noun and its postpositive pronoun. This process may be schematically represented as follows: érhá ↓ plus bhẹ́n (an allomorph of Àbhén). An example of nominal junction is the noun compound òwébè, "library", which exhibits close linkage of two nouns. This process may be schematically represented as follows: òwá, "house", plus èbé, "books". An example of verbal junction is the verb compound ọ̀mánbá, "he has not watched", which exhibits close linkage of a co-verb and a verb. This process may be schematically represented as follows: ọ̀mán-, "he didn't", plus ↑ ọ̀bá, "he has watched".

An example of pronominal disjunction is the extended prepositive pronoun ìmẹ̀n, "I (me)", which -- unlike the extended postpositive pronoun ímẹ̀n, "me (my)" -- can occur in isolation and so constitute a sequent sentence. An example of verbal disjunction is the independent verb ọ̀bá, "he is watching", which -- unlike the co-verb ọ̀mán-, "he didn't" -- can occur in isolation and so constitute a sequent sentence.

Distribution is exemplified by all grammatical constructions, since speech consists of sequences and sequences require ordering of elements. Apparent exceptions to this generalization, such as monosegmental utterances like the exclamative á, "oh!", can be readily handled by pointing out, first, that monosegmentals are not monophonemic but diphonemic (since they must contain a tone as well as a vowel) and, second, that they are surrounded, phonically speaking, by maximal disjunctures -- a fact which is obscured only by graphic convention. The distributive process involved in the utterance á, then, can be schematically represented as follows: pause plus a plus top tone plus pause.

An example of pronominal substitution is the pronoun-plus-verb phrase ìrìẹ̀n bá, "he is watching", which serves as a generalizing replacive for any more specific noun-plus-verb phrase, such as òdẹ́ bà, "Odẹ is watching". An example of vocative substitution is the compound exclamative kóyọ o, "hello there", which serves as a generalizing replacive for any more specific exclamative-plus-noun phrase, such as kóyọ́ dẹ́, "hello, Ode". An example of locative substitution is the use of any general spatial or temporal noun for a more specific indicator of place or time, as when one says ọ̀rìebhâà, "He is going there" for òrìẹdó, "He is going to Benin". An example of pro-agential substitution is the use of any irregular (or non-productive) type of agent noun in place of a regular (or productive) type of agent noun, as when one says ádẹ̀ instead of ọ̀dèbhìn for "buyer" (where both forms are derived from the verb dẹ, "to buy"). An example of pro-numeral substitution is the use of an indefinite number for a definite one, as when one says ìyènsó, "some yams" rather than ìyìnsẹ́n, "five yams".

An example of a grammatical expansion is the extension of a sentence containing only an independent verb by adding a noun subject, as when one says ọ̀dẹ́ bà (from òdẹ́ ọ̀bá), "Ode is watching, instead of ọ̀bá, "he is watching". An example of a grammatical contraction, conversely, is the reduction of òdẹ́ ba to ọ̀bá. (If it is preferred to treat grammatical equation as a special form of grammatical substitution, then, of course, we must reformulate our statement to say that the noun subject replaces zero in the former case and is replaced by zero in the latter.)

## Section 3: Grammatical Analysis

Grammatical analysis is the procedure whereby meaningful utterances in any language are divided into smaller elements which are, in turn, meaningful. Such analysis has dimensions which we may call classes, levels, and grades. Classes

belong primarily to the lexemic level of analysis, and so we will leave detailed consideration of them till Chapter 5, "Words". Levels may be defined as grades in action -- which brings us to grades themselves.

Grammatical grades are stages in a form-size progression that runs from minimal to maximal. "Form-size" is measured more in terms of the ability of a given grade to include its gradational precadessor than in terms of phonemic length, though in general length and inclusiveness tend to vary directly with one another.

In this treatise, we will recognize eleven such grades. In order from minimal to maximal, these grades are: (1) affix, (2) root, (3)stem, (4) word, (5) compound, (6) subphrase, (7) phrase, (8) clause, (9) sentence, (10) predicant, and (11) discourse.

Briefly, these terms may be defined as follows: An affix is a dependent form attached to a root. A root is a dependent form which constitutes the core of a word. A stem is a root with an affix attached to it. A word is a stem which may occur independently. A compound is a continuous sequence of two or more words of the same grammatical class. A subphrase is a word which has grammatical rather than lexical intonation. A phrase is a sequence of two or more words of different grammatical classes. A clause is a subphrase followed by a long disjuncture. A sentence is a clause followed by a stop. A predicant is a sentence that contains both a verb and a noun or noun-substitute. And a discourse is a sequence of related sentences. (Fuller definitions of these terms will appear, with illustrations, in Chapter 5.)

For some purposes, it may prove useful to lump affixes and roots as morphemes; stems, words, compounds, and subphrases, as lexemes; and phrases, clauses, sentences, predicants, and discourses as grammemes. Lexemes can then be defined as inflectable forms with lexical (or dictionary) meaning, whereupon morphemes and grammemes can be defined in turn as sub-lexemic and super-lexemic forms, respectively.

The grammatical analysis of forms and constructions is of two types: monoplane and multiplane. Monoplane analysis treats utterances as if they existed only on one line or level, and treats the constituent elements of the utterances as items whose hierarchical relation to one another can be expressed in terms of order in a linear sequence. Multiplane analysis, on the other hand, treats utterances as if they existed on a plurality of levels, each one of which expresses a stage in the separation of grammatical elements from one another. It is normally binary in type and oppositive in method, which means that it seeks to divide every utterance into opposed -- or, more accurately, complementary -- halves and those halves into halves until there are no elements left to halve. The number of halvings performed then expresses the number of hierarchical levels on which the analysis may be said to have taken place. (By American linguists, this approach is generally termed Immediate Constituent Analysis.)

Monoplane analysis, in turn, is of three types: recitational, reductive, and synthetic. A recitational analysis treats as many elements as possible in their actual order of articulatory (and auditory) occurrence. Since, however, superfixes cannot be so treated, they are then treated instead as though they occurred after those elements with which, in fact, they are phonically simultaneous. A reductive analysis begins with those elements which are most superficial or peripheral to the utterance in question and ends with those which are most basic or central. And a synthetic analysis is the converse of a reductive one: it begins with the most basic or central elements in its utterance and ends with those most superficial or peripheral. Insofar, then, as bases may be called the nethermost elements in utterances, a reductive analysis is "descending" in type, while a synthetic analysis is "ascending".

As an example of the grammatical analysis of a Bini word, let us take the supine ùgábhẹ̀n, "service", a verbal noun derived from the verbal base ga, "to

serve". Before we can analyze it effectively, however, we must be certain that we are dealing with its maximal form. In metaphonemic terms, then, the shape of the Bini word for "service" is ùgáHÀmẹ̀ (where -mẹ is the morpheme of which -bhẹn is an allomorph, and -bhẹ̄n is the contracted form of the compound-complex affix -HÀbhẹ̀n).

A recitational analysis of ùgáHÀmẹ̀ gives it the form u-ga-HA-mẹ-LTLL, where u- is the noun prefix, -ga- the root, -HA- the first suffix, -mẹ the second suffix, and LTLL (that is LOW-TOP-LOW-LOW, where LOW and TOP are metatonemes) the word superfix.

A reductive analysis of the same word gives it the form LTLL-u...HA-mẹ-ga, where all the elements are as designated above, but where their order of occurrence is, of course, significantly different. (The tripunct between u- and -HA- indicates that the elements on either side of it are morphologically more closely associated with one another than either is with the element -ga- which the tripunct replaces.)

A synthetic analysis of the word gives it the form ga-u...HA-mẹ-LTLL, where all elements are as designated in the preceding paragraph.

And a multiplane (or Immediate Constituent) analysis of the word, finally, gives it the following hierarchical form:

| | |
|---|---|
| 1. | -ga- vs. u...HAmẹ-LTLL |
| 2a. | (-ga-) |
| 2b. | u...HAmẹ vs. LTLL |
| 3aa. | (-ga-) |
| 3ab. | (-ga-) |
| 3ba. | u- vs. -HAmẹ |
| 3bb. | L...LL vs. T |
| 4aaa. | (-ga-) |
| 4aab. | (-ga-) |
| 4aba. | (-ga-) |
| 4abb. | (-ga-) |
| 4baa. | (u-) |
| 4bab. | -HA- vs. -mẹ |
| 4bba. | (L...LL) |
| 4bbb. | (T) |

In this analysis, the term "versus" (abbreviated above as vs.) should be read as "contrasts binarily with" or "is constituently complementary to". The parentheses around -ga- and other elements indicate that these items are insusceptible to further grammatical analysis (though of course they can be further resolved into phonemes, phones, and distinctive features on a sub-morphological level).

In some cases where morphic or syntactic clues to grammatical analysis seem ambiguous, phonic clues may profitably be employed. As we noted above in the section on "Phonic Domains", affixes, being haplophonic, do not normally contain nasal vowels or diphthongs. Hence such verbs as sikan, "to grapple", werię, "to turn", and rlibhian, "to supplicate", are probably better interpreted as compound than as complex (i.e., as containing two roots each than as containing one root and one suffix each.) On the other hand, oral-vowel suffixes after nasal-vowel bases normally exhibit nasal-vowel allomorphs (contrast sibhi, "to claim", with dinbhin, "to plunge", both with the extensional suffix -bhA). In the few cases where this rule seems to be violated, such as ę́mìnlá (instead of *ę́mìnnán) "cow", it is probably safer to assume, as in the case of the seemingly coenophonic verb suffixes above, that we are here dealing with a compound rather than a complex stem -- in other words, that -la is itself a root rather than an affix.

# CHAPTER 4: FORMS

## Section 1: Affixes

Affixes may be defined as dependent morphemes, incapable of serving as word-bases, which occur only as attachments of roots, lexemes, or phrases. Functionally, they are of two types: additive and replacive. Additive affixes are added to forms (which may or may not already include affixes) while replacive affixes substitute for other affixes already present.

Positionally, affixes are of four types: prefixes, infixes, superfixes, and suffixes. Prefixes precede the forms to which they are attached; infixes divide these forms; superfixes accompany them (or, graphically speaking, cover them); and suffixes follow them.

Grammatically, affixes are of four types: inflectional, derivative, formative, and extensional. Inflectional affixes modify the meaning of the forms to which they are attached without shifting the grammatical class or sub-class to which these forms belong. Derivational affixes change both the meaning and the classification of the forms to which they are attached. Formative affixes give the words to which they are attached membership in a specific grammatical class or sub-class which they could not have without these affixes. But extensional affixes change neither the meaning nor the classification of the forms to which they are attached. Their only function, apparently, is that of freeing forms which would otherwise be bound -- that is, making words of forms which could otherwise only be bases.

Structurally, affixes are of four types: simple, compound, complex, and compound-complex. Simple affixes occur on only one level (either linear or tonal) and contain only one syllabic (a vowel or a tone). Compound affixes likewise occur on only one level but contain more than one syllabic. Complex affixes occur on

both levels but contain only one syllabic. And compound-complex affixes occur on both levels and contain more than one syllabic.

Although theoretically the interlocking of the above four affix typologies could yield 160 distinct sorts of affixes, in actuality most of the possible typological slots are empty. But a few of them are filled by affixes at once so distinctive and so isolated that it is more useful to give them special names than to refer to them by the hyphenated multi-compound terms that our typology would suggest. Since, with two dubious exceptions, all replacive affixes are simple prefixes, we shall hereafter refer to them as refixes rather than (more correctly, if pedantically) as "simple replacive inflectional prefixes". And since the only two compound-complex affixes in Bini are of almost identical structure, we shall hereafter refer to them as circumfixes rather than (puristically but oppressively) as "additive derivative compound-complex prefix-cum-superfix-cum-suffixes"!

In addition to the distinctions made in our preceding affix typology, we can also divide superfixes into two sub-types: fixed and free. Fixed -- or fixative -- superfixes are those which occur in one and only one form in all members of the grammatical class or sub-class to which they belong (e.g., with verbs or agential nouns). Free superfixes, on the other hand, may take any form which phonic rules will permit (e.g., with most nouns and all particles).

Examples of all occurrent affix-types from our typology follow:

1. A simple replacive inflectional prefix is the ì- in ìbhî, "children" (from òbhî, "child").

2. A simple additive inflectional fixative superfix is the low tone in bà, "watch!" (from ba, "to watch").

3. A simple additive inflectional suffix is the -rìè in ọ̀bàárìè, "it shone" (from baa, "to shine").

4. A compound additive inflectional fixative superfix is the low-tone-plus-top-tone sequence in bàbá, "sneak!" (from baba, "to sneak").

5. A simple additive derivative suffix is the -lo in filo, "to keep throwing" (from fi, "to throw").

6. A simple additive formative prefix is the o- in òwẹ̀, "foot".

7. A simple additive formative free superfix is the top tone in á, "oh!"

8. A compound additive formative free superfix is the top-tone-plus-low-tone sequence in úyì, "honor".

9. A complex additive formative prefix is the À- in gbóo, "wide" (from À-gbóo).

10. A simple additive extensional fixative superfix is the low tone in wà, "you (ye)".

11. A simple additive extensional suffix is the -rle in ẹ̀gùarlè, "palace".

12. A compound additive extensional suffix is the -ghArll in òhǒ̀ghòrlì, "a lie".

13. An infix (that is, a simple additive extensional suffix-prefix) is the -mʼ- in ìghọ́mmìghòn, "foreigner (from eastern or northern Nigeria)"

14. A circumfix (that is, a compound-complex additive derivational prefix-cum-superfix-cum-suffix) is the ù .:. bhẹ̄n in ùbúnbhẹ̄n, "abundance", from bun, "to abound".

Phonically, affixes vary from 1 to 10 phonemes in length. More specifically, prefixes vary from 1 to 2 phonemes; infixes from 2 to 3; superfixes from 1 to 10; and circumfixes from 7 to 10 phonemes in length.

The syllabic structure of affixes is considerably simpler than that of roots, in that affixes rarely if ever contain nasal vowels or diphthongs. The few cases which seem to violate this rule (such as sikan, "to attach", rhobhiẹ, "to insult", or rlinghian, "to supplicate") can be handled in either of two ways: One of these

is to call the verbs tonally irregular compounds, in which case the -kan, -bhiẹ, and -bhian can be termed roots rather than affixes. The other is to distinguish historically between ancient and recent affixes, declaring that the former are haplophonic and the latter coenophonic in syllabic structure. Since all affixes are, presumably, ultimately derivable from obsolete roots anyhow, it may be that these two interpretations are really two ways of saying the same thing -- to wit, that coenophonic affixes are morphemes in a state of transition from the status of coenophonic roots to that of haplophonic affixes.

In terms of linear morphic structure, there is also an important difference between affixes and bases; and that is that, while roots can form compounds (in this case, stems) by replication, affixes cannot. All compound linear affixes are heterothetic or phrase-like, in that no syllable in the affix echoes its predecessor. (Needless to say, this could hardly be true of tonal affixes, in which the paucity of tonemes -- and, a fortiori, of metatonemes -- makes it practically impossible to avoid repetition of tones in series.) Hence we need not hesitate over the morphological analysis of words like ọ̀bọ̀dídí, "misfortune". Even if we can neither isolate nor define the morpheme -di-, we can be reasonably sure on structural grounds alone that it is a root rather than an affix and that therefore the stem -bọdidi is compound rather than complex in nature.

Among linear affixes, prefixes are conspicuous by their brevity. They consist of only one vowel with no precedent consonant, whether or not they combine with a simultaneous simple tone to form complex prefixes. Since all other linear affixes appear to have the syllabic structure CV (or, at the least, non-vowel plus vowel), one naturally wonders whether, if only for the sake of consistency, prefixes ought not to be interpreted as exhibiting, at least on the metaphonemic or morphological level of analysis, an initial non-vowel, such as H or ʾ. To the comparative linguist, of course, this will be a most attractive recourse, since there is considerable evidence that those noun-prefixes which now show no initial obstruents did, at an earlier stage of Niger-Congo, have initial obstruents

(exhibiting, for example, the singular-plural alternation ki-/vi- where Bini now has i-/i-, and the like). "Phonetic realists", on the other hand, will dismiss such procedureal sleight-of-hand as philological phantasy. All in all, the present writer is inclined to side with the sceptics on this issue, not so much out of positivistic purism as from a feeling that the advantages of invoking metaphonemes here are insufficient to outweigh the counterargument of intellectual economy -- that linguistic entities ought not to be unnecessarily multiplied. We shall simply say, then, that Bini prefixes differ from Bini infixes and suffixes in that the former have minimal syllabic structure, while the latter have intermediate syllabic structure (only roots exhibiting maximal syllabic structure).

In phonemic terms, there are only seven possible simple prefixes in Bini -- i, e, ẹ, a, ọ, o, and u. As it happens, all of these do actually occur as prefixes, though nouns are the only form class that employs all seven of them. (Since the only complex prefix in Bini, the adverb connector HÀ-, contains a metaphonemic rather than a phonemic vowel, it is impossible to say anything about the range of "real" vowels in such prefixes.)

Infixes are an even more restricted group of affixes in Bini than are prefixes. In fact, only four infixes can be clearly descried: -mA-, -bA-, -dA-, and -lA-, as in ìgòdòmìgòdò, "Land of Yaws" (a derogatory term for Benin), ìtẹ́bíìtẹ́, "everlastingness", ègédêègé, "two-storey house", and àkpàláàkpà, "spider". And, of the four, only -mA- (with its allomorph -bhAn-) can be called even moderately productive.

It is possible that infixes ought to be described as complex rather than simple, because all but -mA- occur only with a simultaneous top tone. But since -mA- occurs with either top or low tone, and since most of the (lineally autothetic) noun compounds in which it occurs show tonal irregularity, it is probably best for us to confine ourselves to a linear characterization of infixes.

Because words may have as many as nine syllables, syllables may (at most tempos) contain two vowels, and vowels may take any of six tones, the number of theoretically possible free superfixes in Bini is $12^9$ -- a clearly unmanageable figure! In practice, of course, this myriad is greatly reduced by the fact that few words have more than three syllables; that most syllables contain only one vowel; and that phonotactic and morphotactic rules prevent occurrence of derived tones in many positions. Even so, however, the number of common superfixes must be over 2000 on the tonemic level and nearly 1000 even on the metatonemic level.

Fixative superfixes are considerably fewer in number than are free superfixes. All Bini verbs have fixed tone, the only common patterns for which are (in the imperfective stem) T in monovocalic verbs and LT in bivocalic verbs. All adverbs also have fixed tone, the two commonest patterns for which are T→ and L→ . Most pronouns also have fixed tone, the four dominant patterns for which are: for basal prepositives, L; for extended prepositives, LL; for basal postpositives, LT; and for extended postpositives, TL. Few nouns have fixed tone, but among those nominal sub-classes that do, the two commonest patterns are T→ for nicknames and L→ for verbal nouns.

Among polysyllabic words, fixative superfixes generally can be divided into metaphonemically monoplane or one-level types (such as TT) and biplane or two-level types (such as TL). While nouns and adverbs are, in these terms, predominantly monoplane in their tonal fixation, verbs are predominantly biplane, and pronouns are mixed.

On the linear or non-tonal level, suffixes exhibit more variety and combineability than other types of affix. While, metaphonemically at least, none of them show the brevity of prefixes, they can form compound strings of two or three simple suffixes in succession. Apart from the structural rule that all of them should be haplophonic, the only apparent limit on their diversity is that none of them begin with the consonants p, b, f, v, w, or y.

But the very profusion of suffixes causes difficulties for the analyst. Chief among these is the fact that allomorphy is probably higher among suffixes than among members of any other morphic class in Bini. In the case of inflectional or derivative suffixes, this variability can be handled by reference to the semantic identity of such phonically dissimilar pairs as -lo (the iterative verb formative) and -nẹn (its allomorph after verb roots ending in -ẹn) or -rlè (the perfective aspect indicator) and -À (its allomorph in hurried speech).

But in the case of extensional suffixes, whose meaning is purely positional, it is often next to impossible to interpret groups of similar but non-identical forms. An example is the following nominal suffix series:

1 - rle
2 - rlẹn
3 - rlA
4 - rlAn
5 - rli
6 - Hi
7 - ri
8 - re
9 - rha
10 - rhA
11 - le
12 - lẹ
13 - la
14 - lA
15 - nAn

Worse yet, most if not all of these affixes have accelerated-speech variants with the shape -HA, -A, or -∅ (zero). Insofar as these forms may be said to have any meaning, this meaning is the same in every case. Within the normal bounds of sporadic variation, then, it is possible to treat all sixty of them as allomorphs of a single morpheme! The citation form of this morpheme, of course, is difficult to select. By the principle of intermediacy, it should be something like -re. But since we may also be dealing with 8, 15, 45, or almost any other number of distinct morphemes here, choice of citation forms in this case seems more than usually arbitrary.

In a few cases, such as that of the verb suffix -ghẹ/-ghe, which appears to oscillate between a wholly assimilated form (as in lughu, "to stir") and a half assimilated form (as in yinghẹn, "to be emaciated"), we may be dealing with an earlier and a later layer of affixation, in which verbs like fieghe, "to swing", may represent an unassimilated (and hence fully contemporary) morphic stratum.

If this analysis is valid, we are probably justified a fortiori in speaking of such suffixes as the verb extensional -HA in dee, "to come," as ancient affixes and of such apparently unassimilable suffixes as the noun extensional -gba in úsúgbá, "fufu-lump", as recent forms. (However, it is also possible that many seemingly unassimilated affixes are in reality roots. In the case of the above-cited noun, for example, the terminal form may have the same root as the co-verb gba, "to do...together".)

In a few cases, forms that at first look like affixes may turn out to be not merely roots but words. A possible case in point here is the final -lẹ in the free nouns égìlẹ̀, "land-snail", and émìlẹ̀, "red yam", which is probably better interpreted as a bound postpositive noun -ìlẹ̀, meaning "organism".

Circumfixes are limited to three classes of verbal nouns of the type here called supines. They are of two sub-types: quadrifixes and quinquefixes. Quadrifixes help produce nouns which, on the metaphonemic level, contain four vowels; while quinquefixes contribute to nouns which, on the same level, contain five vowels. Quinquefixes are, in turn, of two infra-types: tetrasyllabic and pentasyllabic. Tetrasyllabic circumfixes have four syllables, while pentasyllabics have five. Tonally, quadrifixes have the metaphonemic pattern LTLL; tetrasyllabic quinquefixes the pattern LTLLL; and pentasyllabic quinquefixes the pattern LTTLL. Examples of the three, exhibiting near-minimal contrast, follow:

ùbábhẹ̄n (from ù-bá-hÀ-mè), "the act of watching"
ùbábhẹ̄n (from ù-bâà-HÀ-mè), "the act of shining"
ùbábábhẹ̄n (from ù-bábá-HÀ-mè), "the act of sneaking"

In a handful of cases we encounter what could be interpreted as clause- rather than word-affixes. The most striking of these forms is the emphatic Á-, as in ọ́dé, "it does fall" (from Á-ọ̀-dé), which appears to conform perfectly to the morphic pattern found -- for example -- in adverb prefixes. Almost as difficult to explain away is the interrogative form á-, as in ánọ́, "Who is it?" Less persuasive are the snynonymous (and perhaps allomorphic) emphatics tÁ- and rhÁ-, as in tọ́dé or rhọ́dé, "It does fall", since they exhibit a structure characteristic rather of infixes or of suffixes than of prefixes.

All things considered, however, it is probably better to treat all the above forms as particles rather than as prefixes, and this for several reasons. First, as we noted, tÁ- and rhÁ- are morphically irregular as prefixes. Second, á- has a decelerated-speech allomorph ghá-, which is similarly alien to the prefix mould. Third, Á- itself can equally well be interpreted, metaphonemically, as HÁ-, in which case it shares the structure of TÁ- and ghá-. And finally, most particles, though disyllabic in their maximal forms, exhibit the monosyllabic structure CV in most contexts. On balance, then, we are probably better advised to treat the above four forms as truncated particles than as expanded prefixes.

Section 2: Roots

Roots may be defined as simple dependent morphemes capable of serving as word-bases. They differ from affixes in that affixes never serve as word-bases; and from stems (which are treated in the following section) in that stems may be -- and usually are -- compound, complex, or compound-complex morphemes.

Another regard in which roots differ from affixes is phonically. Affixes may be exclusively tonal in nature, whereas roots are always exclusively linear in nature. Affixes, when complex, contain both tonal and linear morphemes, whereas roots, being mandatorily simple, can never contain phonemes from two different phonic levels. Linear affixes may contain only one phoneme (a vowel), whereas roots must contain at least two phonemes (a consonant followed by a vowel). On the other hand, linear affixes are mandatorily haplophonic, which means that they may not contain more than single oral vowels (the syllabic formula for which is CV); whereas roots are optionally coenophonic, which means that they may contain oral diphthongs, nasal vowels, or nasal diphthongs (the syllabic formulae for which are CVV, CVN, and CVVN).

However, since the majority of both roots and affixes exhibit the syllabic pattern CV, the most effective way of distinguishing them from one another is by structural position. Generally speaking, morphemes which are "peripherally" located in a word are affixes, while those that are "centrally" located are roots. Thus, in the noun ígúrlè, "village" (with allologs ígûè and ígúe), the i-, even if one construes it metaphonemically as Hi- (with syllabic pattern CV), is a prepositive affix; the TTL tone-pattern is a superpositive affix; and the -rle is a postpositive affix. By elimination, then, -gu- is left as the word-root. Similarly with the adverb zẹ́ẹ̀, "exactly" (metaphonemically HÀzẹ́HÁ, but allologously zẹ): the HÀ- is a prefix, the T → a superfix, and the -HA a suffix; which leaves -zẹ- as the root.

The above adverb also exemplifies the phonic principle that, when a form containing both root and affixes is enunciated at an accelerated speech-tempo, it is the affixes which are reduced or lost rather than the root. (One cannot, however, argue from this fact to the more general statement that all roots are more resistant to phonic reduction or loss than all affixes. For most noun and verb roots show loss of vowel color before other forms beginning with vowels. And a few roots -- especially among co-verbs and particles -- are just as reducible or elisible as the most volatile affixes. Thus, the negative verb HI is phonically blurred in the subphrase ẹ̀ẹ́dé, "it isn't falling", as is the emphatic particle HÁ in the subphrase ọ́dè, "it does fall".)

Examples of the four syllabic shapes which Bini roots may exhibit follow:

1. wẹ, "little" (as in wẹrlẹ, "to be small", or wẹ̀wọ́wẹ́, "in a whisper")
2. vun, "deep" (as in ùvún, "hole", or vúun, "deeply")
3. gie, "short" (as in gierle, "be small" or ẹ̀gíegie, "speed")
4. dion, "senior" (as in dioon, "to outrank in age" or ọ̀díọn, "elder")

Allomorphy among roots, while perhaps not as extensive as among affixes, is nonetheless of common occurrence. Variation of this kind, when not positionally conditioned, usually takes one of three phonic forms: alternation between a front and a back vowel; alternation between an oral and a nasal vowel; or alternation between a higher and a lower vowel. Examples of each of these types of variation are:

1. ge/go, "high", as in ẹ́gégé, "height", or ẹ́gógó, "bell"
2. si/sin, "thin", as in simósímó, "lean", or sínghẹ́nsínghẹ́n, "emaciated"
3. pẹ/pa, "flat", as in pẹrhẹ, "to be flat", or pāpàapà, "smooth and flat"

Occasionally three or even four vocalic variants of a root may be encountered. Examples are: si/se/sɛ, "good" (as in -èsì, "virtue", ẹ̀sé, "well", or sẹ̄sẹ̀sẹ̀, "clear") or de/dẹ/do/dọ, "location" (as in èdé, "where", òdẹ́, "path", ẹ̀dó, "The City -- i.e., Benin", or -òdộộ, "there").

Sporadic consonantal variation, while rare, also occurs. An example is the paired root bi/bhi, "child", as in ùbhí, "girl", or ìbìɛ́kà, "children". Another is the triadic root ke/khe/he, "place", as in èké, èkhé, or èhé, idem.

The only root in Dini that appears to have more than four allomorphs is the demonstrative morpheme rie, "that", which has no fewer than twenty alternate forms! This remarkable polymorphy, involving, as it does, six vowel colors, two vowel qualities, and four non-vowels in various combinations, is perhaps best represented on a grid, as follows:

| non-vowel | l | rl | rl | H | H | n | n |
|---|---|---|---|---|---|---|---|
| quality | O | O | N | O | N | O | N |
| color | | | | | | | |
| I | | | rIin | | | | nin |
| e | | rIe | | e | | ne | |
| ẹ | Ie | | rIen | | en | ne | |
| A | IA | rIA | rIAn | A | An | nA | |
| a | | | rIan | | an | | nan |
| o | | | | | | | non |
| ọ | | | | | | | nọn |

Lexically, this vigesimal group can be divided into sub-groups, as follows:

(1) pronouns

(a) prepositive: ìrìẹ̀n, "he (she, it)"

(b) basal postpositive: ɛ̀rlé, ɔ̀rlé (Àrlé, Ànrlɛ́n, À'é, Àn'ɛ́n, À'á, Àn'Án, rIe, rIen, e, ẹn, A, An), "him (his, her, it, its)"

(c) extended postpositive: ìrlàn, "they (them, their)"

(2) nouns

(a) proximate: ọ́nàn (Ánàn), "this"

(b) remote: ónin (ọ́rIin, ọ́niin, ọ́rIiin, Ánin, ÁrIin, Ániin, ÁrIiin) "that"

(3) verbs

(a) defective (third personal imperfective only): nọn, "he is (she is, it is; they are)"

(4) particles

(a) deictic: èné (èná, nA), "the (that, who, which)"

It is, of course, possible that the words írìàn, "they", ọ́nàn, "this", and ọ́nín (and, a fortiori, ọ́nìín), "that", do not exhibit the simple morphemes rian, nan, and nin but are rather sequences of the radical forms rịẹn and nẹn plus the suffixal forms Ha and Hi (or even, in the case of ọ́nìín, HA-Hi, or Hi-Hi). But even if this interpretation is preferred, we are still left with eighteen allomorphs for the root rie -- a rather formidable profusion of forms!

The more discrete form-classes a core-morpheme occurs in, the surer one may be that it is a root. Thus there can be little reasonable doubt that the morpheme khui, "black", is a root, since it occurs not only in the noun -èkhúi, "negro", but also in the verb khuikhui, "to be black" and the adverb khuí'írìí, "dark". (And the root -rie, "that", as we have just seen, occurs in four form-classes. It is, apparently, the only Bini root with such wide grammatical distribution.)

Sometimes, however, even when all its occurrences fall within the bounds of a single form-class, we are constrained to recognize a root as recurrent by the sheer number of its lexical embodiments within that class. Such a case is that of the root kpa, "snap, bite, sting", as in the following nine nouns denoting predatory animals:

àkpàlàkpà'èrhán, "wood-pecker"
èkpákárlá, "beetle"
àkpáàkpá, "spider"
àkpàláàkpà, "spider"[1]
àkpàkpáàlà, "spider"[1]
èkpárnùúrhù, "wasp"
òzìkpáàlọ̀, "lizard"

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[1]Despite their variety of form, all three of these words, according to Mr. Imohiosen, are non-specific in reference and denote arachnids generally.

àtàlàkpà, "leopard"
àkpàkómìzà, "lion"

When all such one-class occurrences fall within the form-boundaries of either adverbs or exclamatives, one tends to be even more hesitant to declare a form a recurrent root, because of the frequency of dysphonic and dysmorphic forms in these two classes. But here again, a combination of euphonic and eumorphic appearance with repeated occurrence in the class should lead us to recognize such a root even among these linguistic peripheries. Such a recognizable root is gbo, "large", as in the following five adverbs:

gb̀oo, "spacious"
gb̀odóo, "broad"
gbṑghòdò, "full"
gb̀okóo, "big"
gb̀órí́ógbórí́, "loud"

Recurrent roots are far rarer among exclamatives than among adverbs. One such root, however -- gha, "attention" -- ought probably to be recognized in the following three interjections:

ghá, "Hey!"
ghárh̀a, "Hall!"
tôòghá, "Really?"

In some cases allomorphy makes the "basic" (i.e., historically prior and/or phonically median) form of a root difficult to stipulate. An example is the form-cluster exemplified by the noun -òbúà, "All-mighty", and the adverbs bù̧bú̧ebú̧e, "big", and bō¹èe̩, "falling like something large but not heavy". If the three are cognate, it is not clear whether the root involved should be cited as bo, as bu, or as bue̩ or bua. The first of these is probably the easiest in terms of explaining the others, but there is always a possibility that shorter allomorphs are simply reduced variants of longer ones rather than that the longe show affixation or compounding. The same sort of difficulty is manifested by

pairs like biẹ, "to give birth", and òbhí, "progeny", whose consonantism was discussed above.

As we noted in the preceding section on affixes, an important morphological difference between roots and affixes is that the former may be replicated (in a continuous sequence of two to five occurrences), while the latter cannot. However, as soon as a root is replicated, as in the verb base bobo, "to run to and fro", that root ceases to remain a sub-lexemic morpheme and becomes a stem -- that is, a lexemic item. In their capacity as stems, replicated roots will consequently be dealt with in the ensuing chapter on lexemes.